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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/633,604

08/07/2000

Markus Graulich

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2697

7590

05/13/2004

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EXAMINER

CARTER, AARON W

ART UNIT

PAPER NUMBER

2625

DATE MAILED: 05/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/633,604

Applicant(s)

GRAULICH ET AL.

Examiner

Aaron W Carter

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Finality

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Response to Arguments

Applicant's arguments, see paper number 10, filed April 12, 2004, with respect to the rejection(s) of claim(s) 1-15 under 35 USC 102(e) and 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of US Patent 6,567,546 to Eguchi et al. please refer to new rejections below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 8-10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,665,422 to Seidel et al. ("Seidel") (already of record) in view of US Patent 6,567,546 to Eguchi et al. ("Eguchi").

As to claims 1, 8, and 15, Seidel discloses a computer-based method for use in accordance with an automatic mail-sorting machine, the method comprising the steps of:

Scanning a piece of post mail in accordance with an address block locating (ABL) system for locating one or more address blocks on the piece of post mail (column 3, lines 40-41, wherein locating a region of interest corresponds to ABL);

Analyzing the one or more located address blocks in accordance with an optical character recognition (OCR) system (column 3, lines 42-44); and

Providing a coupling between the ABL system and the OCR system capable of feeding one or more results associated with the ABL system as an input to the OCR system (column 3, lines 41-67, wherein a ROI is located and provided as input to the OCR, if no distribution info is found, the operator rotates the parcel and restarts looking for and segmenting a ROI).

Seidel does not disclose expressly disclose that one or more results associated with the OCR system as an input to the ABL system through use of the provided coupling.

Eguchi discloses in Fig. 9, a coupling between the character recognition device (element 17) and the ROI locator and extractor, which corresponds to elements 309-313. Eguchi goes on to disclose that when character recognition is unsuccessful the image is rotated and inputted and processed by elements 309-313 again (column 44, lines 5-11).

Seidel & Eguchi are combinable because they are from the same art pattern recognition wherein they both involve locating a region of interest in an image of an object, extracting that region of interest and performing character recognition on that region of interest.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the invention disclosed by Seidel with the invention disclosed by Eguchi this

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providing the OCR disclosed by Seidel with automatic determination of a successful recognition and automatically sending a rotated image to the ABL as input to try again for a successful recognition through the use of provided coupling.

The suggestion/motivation for doing so would have been that operator involvement can be eliminated and still be efficient (Eguchi, column 47, lines 11-19)

Therefore, it would have been obvious to combine Seidel with Eguchi to obtain the invention as specified in claims 1, 8 and 15.

As to claims 2 and 9, the combination of Seidel and Eguchi discloses the method of claim 1, wherein the coupling is provided (Eguchi, Fig. 9) such that the ABL system scans for a further address block when no ZIP code could be extracted by the OCR system from the current address block currently being analyzed (Seidel, column 3, lines 3-6 and 44-45 and column 4, lines 8-17).

As to claims 3 and 10, the combination of Seidel and Eguchi discloses the method of claim 1, wherein a type of information that is evaluated in deciding whether the ABL system scans for a further address block is a least one of:

- (i) confidence of the OCR result relating to the current address block just analyzed;
- (ii) address block content information (Seidel, column 3, lines 3-6 and 44-45);
- (iii) confidence of the ABL result relating to the current address block just localized;
- (iv) data retrievable by a sort plan associated with a site of the automated sorting machine;
- (v) postmark information retrievable from a postmark; and

(vi) knowledge-based information derivable from at least one of the types of information in (i) through (v).

Claims 4-7 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seidel and Eguchi as applied to claims 1, 8, and 15 above, and further in view of USPN 6,028,956 to Shustorovich et al. ("Shustorovich").

As to claims 4, 7, 11, and 14, the combination of Seidel and Eguchi discloses the method/apparatus of claims 1 and 8, but neglects to explicitly disclose that the step of providing a coupling between the ABL system and the OCR system in which the ABL system continues to scan for further potential address blocks after having found at least one potential address block while the at least one potential address block is being processed by the OCR. However, Shustorovich discloses a method of using a segments a portion of an image in which an object of interest is located, send the segment to a recognition process and while the recognition process is running a new object is being located and segmented (column 20, lines 46-65). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Seidel and Eguchi with the teachings of Shustorovich. This would provide the invention with the capability to run the ABL, send a candidate block to the OCR and while the OCR is performing recognition, the ABL is searching for another candidate block. Shustorovich further teaches that this method provides expedite processing thus decreasing delay.

As to claims 5 and 12, the combination of Seidel, Eguchi and Shustorovich disclose the method/apparatus of claims 4 and 11, Seidel further discloses a step of providing a ranking for each of the address blocks, being at least one of located and analyzed, for finding the most probable destination address block (column 3, lines 49-51, wherein the operator ranks the ROI's and selects the one with the majority of address block content information).

As to claims 6 and 13, the combination of Seidel, Eguchi and Shustorovich disclose the method/apparatus of claims 5 and 12, Seidel further discloses wherein a type of information that the ranking is based on is at least one of:

- (i) confidence of the OCR result relating to each of the address blocks;
- (ii) address block content information ((column 3, lines 49-51, wherein the operator ranks the ROI's and selects the one with the majority of address block content information));
- (iii) confidence of the ABL result relating to the current address block just localized;
- (iv) data retrievable by a sort plan associated with a site of the automated sorting machine;
- (v) postmark information retrievable from a postmark; and
- (vi) knowledge-based information derivable from at least one of the types of information in (i) through (v).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

"Handwritten ZIP code Recognition" by Dzuba et al. discloses determining a zip code by a recursive locating and recognition system.

"A Blackboard approach to Handwritten ZIP Code Recognition" by Hull et al. discloses determining a zip code by a recursive locating and recognition system.

"A system for Cursive Handwritten Address Recognition" by Mao et al. discloses determining a zip code by a recursive locating and recognition system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron W Carter whose telephone number is (703) 306-4060. The examiner can normally be reached on 7am - 3:30 am (Mon. - Fri.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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